AIRWORTHINESS DIRECTIVE

This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) with ADs.

Number:

CF-2010-29R2

Effective Date:

4 August 2022

ATA:

29

Type Certificate:

H-88

Subject:

Hydraulic Power – Servo Actuator Piston Rod – Corrosion and Cracking

Revision:

Supersedes AD CF-2010-29R1, issued 26 July 2012.

Applicability:

Bell Textron Canada Limited (BTCL) model 222, 222B, 222U, 230 and 430 helicopters equipped with hydraulic servo actuators part number (P/N) 222-382-001-107.

Compliance:

As indicated below, unless already accomplished.

Background:

It has been determined that the output piston rod assemblies of the hydraulic servo actuators may be corroded and, consequently, prone for corrosion cracking. Also, in one case, an unapproved repair was found on the piston rod.

This situation, if not corrected, could result in a loss of control of the helicopter.

The original issue of this AD mandated:

i. A one-time inspection and, if applicable, rectification of the servo actuator.

ii. Complete overhaul of servo actuator P/N 222-382-001-107.

Revision 1, AD CF-2010-29R1, mandated a retrofit of the servo actuators with a stainless-steel piston rod, allowing for a new overhaul interval of 10 000 hours air time or 10 years, whichever occurred first. Also, an extension of compliance time of 600 hours air time or 6 months, whichever occurred first, was authorized for certain actuators that had been re-inspected and found to meet the criteria for acceptance.

This AD revision, CF-2010-29R2, is issued to remove the specific details of the overhaul interval to allow for future changes to the interval in accordance with standard overhaul revision procedure.

Corrective Actions:

A. No later than 5 hours air time upon receiving the original issue of this AD, perform an inspection and, if applicable, rectify the servo actuator in accordance with the instructions provided in the applicable BTCL Alert Service Bulletin (ASB) listed in Table A below.

Table A

Helicopter Model	ASB
222 and 222B	222-10-109 Revision A, dated 30 August 2011
222U	222U-10-80 Revision A, dated 30 August 2011
230	230-10-41 Revision A, dated 30 August 2011
430	430-10-44 Revision A, dated 30 August 2011

Compliance with BTCL ASB listed in Table A above at Initial Revision, prior to the effective date of this AD, also meets the requirements of this AD.

B. Following compliance with Part A or the inspection carried out as a condition of Transport Canada AMOC AARDG/A33, the servo actuator will require a complete overhaul, or as an option, an upgrade in accordance with Part I of the Accomplishment Instructions of the applicable BTCL ASB listed in Table B below:

Table B

Helicopter Model	ASB
222 and 222B	222-11-111 Revision C, dated 22 February 2022
222U	222U-11-82 Revision C, dated 22 February 2022
230	230-11-43 Revision C, dated 22 February 2022
430	430-11-46 Revision C, dated 22 February 2022

Compliance with BTCL ASB listed in Table B above at Revision A or B, prior to the effective date of this AD, also meets the requirements of this AD.

Based on the damage found during inspection above and the type of material applied as protection to the piston rod, this complete overhaul or upgrade must be completed within:

1. 1200 hours air time or 12 months, whichever occurs first, if the criteria of paragraph 1.c. of the Accomplishment Instructions of the applicable ASB listed in Part B of this AD are met; or
2. 2400 hours air time or 24 months, whichever occurs first, if the criteria of paragraph 1.b. of the Accomplishment Instructions of the applicable ASB listed in Part B of this AD are met; or
3. 3000 hours air time or 48 months, whichever occurs first, if the criteria of paragraph 1.a. of the Accomplishment Instructions of the applicable ASB listed in Part B of this AD are met.

For those actuators listed in Part B.1. and Part B.2. above which have reached their time limits but for various reasons cannot be overhauled or upgraded, an additional compliance time of 600 hours air time or 6 months, whichever occurs first, is granted provided that an inspection in accordance with Part II of the Accomplishment Instructions of the applicable ASB listed in Part B of this AD is performed and the inspection results meet the criteria for acceptance described in these instructions.

C. As of 26 August 2010 (the effective date of the original issue of this AD), servo actuator P/N 222-382-001-107 is not eligible for installation as a replacement part, unless the servo actuator complies with Part A of this AD.

Note:

The new overhaul interval for hydraulic actuator P/N 222-382-001-111 or 222-382-001-111FM has been introduced in accordance with the Component Overhaul Schedule, Chapter 5 of the applicable Maintenance Manual.

The use of later revisions of the ASBs listed in Table A and Table B that have been approved by the Chief, Continuing Airworthiness, Transport Canada, is acceptable for compliance with the requirements of this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Robert Ferguson
Acting Director, National Aircraft Certification
Issued on 21 July 2022

Contact:

Grant Walker, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca or any Transport Canada Centre.